

**IN THE SPECIFICATION:**

A substitute specification and abstract is provided herewith to facilitate prosecution of the application. Additionally, a marked reproduction of the original specification and abstract, showing changes effected in the substitute specification and abstract, is submitted herewith.

**IN THE CLAIMS:**

Please substitute for corresponding pending claims the claims as shown rewritten below with amendments effected therein. Appendix I is attached hereto having marked versions of said claims with amendments indicated by brackets and underlining.

B/ 1. (Twice Amended) Affinity sensor for detecting specific binding events in response to a sample medium, comprising a carrier substrate provided with at least two electrodes and having a predetermined area, said electrodes being equidistantly spaced apart from each other and engagingly bordering said area on opposing sides, at least said area being adapted for receiving immobilized specific binding partners for coupling complementarily associated binding partners directly or via further specific binding molecules, said area being accessible said

B1  
complementarily associated binding partners provided in a sample medium and having a minimum width adapted for capture of at least one of said complementarily associated binding partners provided with one electrically conductive particle within said area in such a way as to allow for formation of a respective tunnel contact junction between the particle and the electrodes.

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B2  
3.(Twice Amended)Affinity sensor for detecting specific molecular binding events as claimed in claim 1, wherein the immobilized specific binding partners cover said area with a thickness which permits tunnel effects.

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B3  
7.(Twice Amended)Affinity sensor for detecting specific molecular binding events as claimed in claim 1, wherein the electrodes are comb-like structures opposingly meshed, and said predetermined area includes affinity areas at least between respective opposing ones of said electrodes.

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B4  
11.(Twice Amended)Affinity sensor for detecting specific molecular binding events as claimed claim 7, wherein the comb-like electrodes are arranged in geometrical symmetry to interdigital structures and said affinity areas are arranged in a matrix, the electrodes are separated from each other at intersections by an insulating layer arranged between the electrodes.

B4  
12.(Twice Amended)Affinity sensor for detecting specific molecular binding events as claimed in claim 7, wherein said electrodes are micro-electrode and a length of the micro-electrodes is 0.1 mm, the width of the area is 0.1  $\mu$ m and its effective height is 0.02  $\mu$ m as well as the affinity areas is at a 1:10 ratio relative to the chip surface.

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B5  
16.(Twice Amended)Affinity sensor for detecting specific molecular binding events as claimed in claim 1, 13, 14 or 15, wherein a plurality of reference areas is provided being occupied with different inactive binding partners.

17.(Twice Amended)Affinity sensor for detecting specific molecular binding events as claimed in claim 1, wherein the specific binding partners enter into chemical coordination.

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#### REMARKS

Claims 1-24 remain in this application. Claims 1-24 are rejected. Claims 25-36 are previously cancelled. Claims 1, 3, 7, 11, 12, 16, 17 are amended herein to clarify the invention and are not considered to be narrowing but instead address matters of form unrelated to substantive patentability issues.